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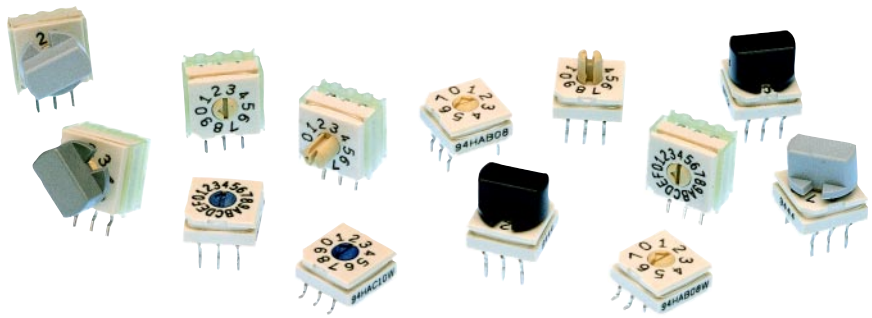
Jameco Part Number 216004 (HAB10RA)

SERIES 94H
Binary Coded



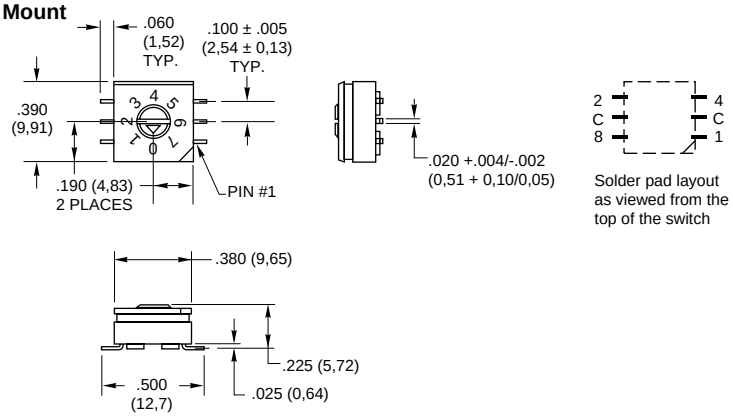
FEATURES

- Sealed Construction; No Tape Seal Required
- Surface Mount or Thru-Hole Style
- Tube or Tape and Reel Packaging
- Octal, BCD, and Hexadecimal Code
- In Standard or Complement
- Standard and Right Angle Mount
- Flush or Extended Actuators
- Gold-Plated Contacts

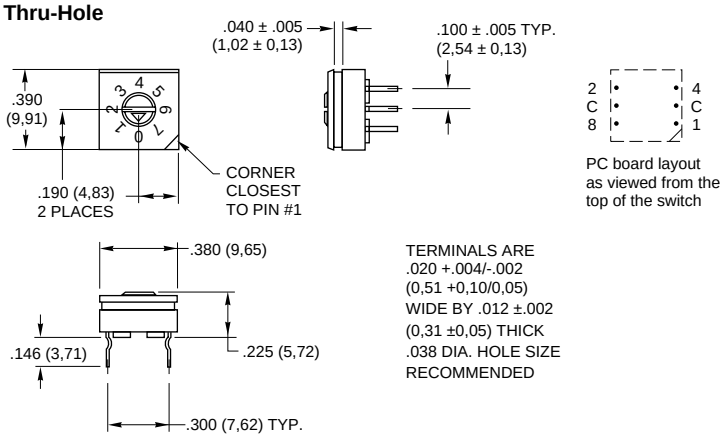
DIMENSIONS In inches (and millimeters)

Tolerances are ± .010 inches unless specified otherwise.

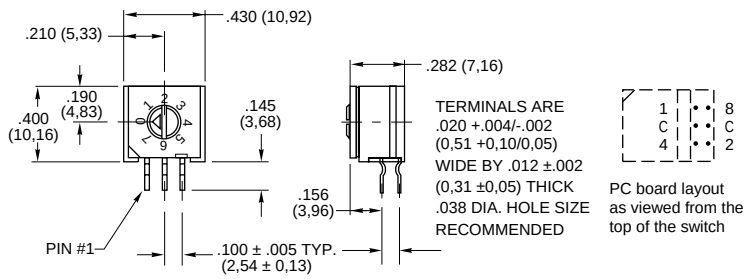
Surface Mount



Standard Thru-Hole



Right Angle Thru-Hole



ACTUATOR STYLES

Octal–8 position

BCD–10 position

Hex–16 position

Figure 1 **Figure 2**

All actuation types are available in octal (8), binary coded decimal (10), or hexadecimal (16) codes; with either standard or complement output. Standard code outputs have natural color rotors; complements in a contrasting color.

EXTENDED ACTUATOR TYPES

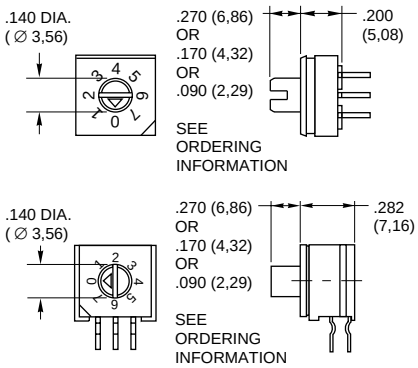


Figure 3

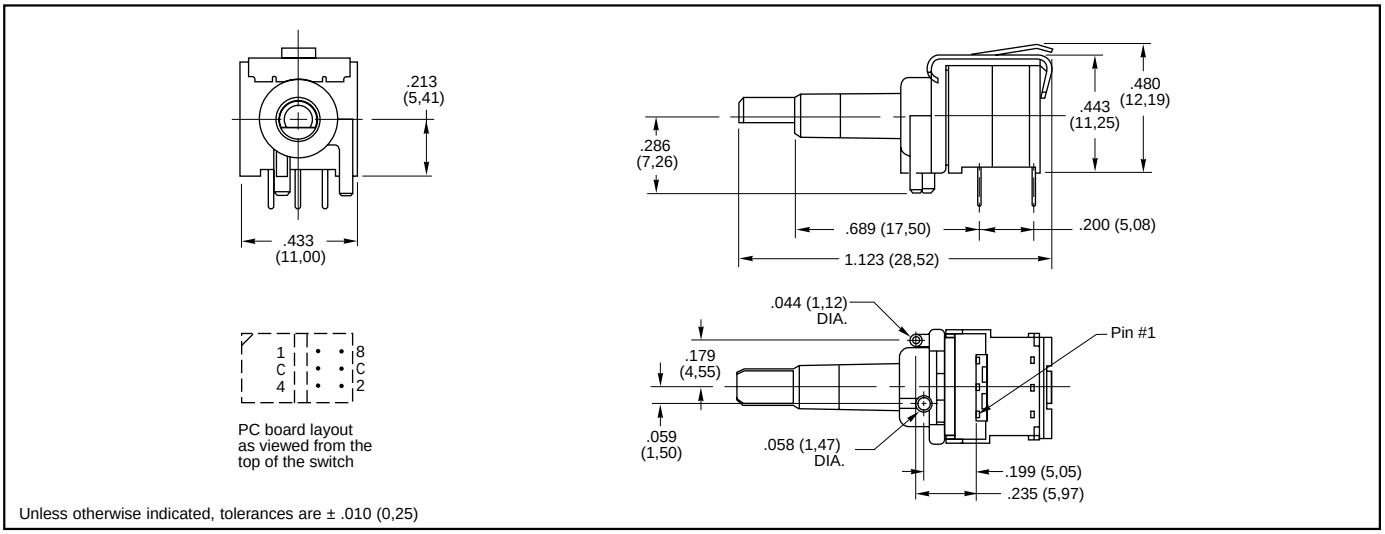
SERIES 94R

Economical, Binary Coded

FEATURES

- 10,000 Cycles of Operation
- Gold-Plated Contacts
- Sealed Contact System
- Right Angle Mount
- Octal, BCD & Hexadecimal Codes
- Standard or Complement

DIMENSIONS In inches (and millimeters)



Unless otherwise indicated, tolerances are ± .010 (0,25)

SPECIFICATIONS: Series 94H and 94R

Electrical Ratings

Make-and-break Current Rating: 30 mA at 30 Vdc for 10,000 cycles of operation.
Carrying Current Rating: 100 mA at 50 Vdc
Contact Resistance: 50 mohms maximum initially (measured at 10 mA, 50 mVdc). 150 mohms maximum after life.
Insulation Resistance:(measured at 100 Vdc across open switch contacts)
Initial: 5000 Mohms minimum. After Life: 1000 Mohms minimum.
Dielectric Strength: (measured across open switch contacts) Initial: 500 Vac RMS minimum. After Life: 250 Vac RMS

Mechanical Ratings

Mechanical Life: 10,000 cycles of operation. One cycle is a rotation through all positions and a complete return through all positions.
Mechanical Shock: 1000g's, 0.5 mS, half sine per MIL-STD-202F, Method 213, Test Condition E.
Vibration Resistance: 10-2000 Hz at 15G or 0.060" double amplitude per MIL-STD-202F, Method 204, Test Condition B.
Operational Torque: 2 to 6 inch-ounces initially and 1.2 inch-ounces minimum after life.

Environmental Ratings

Operating Temperature Range: -40° to +85°C.
Storage Temperature Range: -40° to +85°C.
Moisture Resistance: 240 hours with temperature cycling and polarization. Passes insulation resistance and dielectric strength per MIL-STD-202F, Method 106 following exposure.

Materials and Finishes

Rotor and Switch Body: Plastic (UL94V-O)
Contact Material: Copper alloy plated. 30 microinches minimum gold over 50 microinches minimum nickel.
Shorting Member: Copper alloy plated. 30 microinches minimum gold over 50 microinches minimum nickel.
Terminals: Copper alloy plated. 100 microinches minimum 90/10 tin lead solder over 50 microinches minimum nickel.
Internal O-ring: Rubber BUNA-N

Soldering Information

Soldering Temperature: 250° C for 10 seconds maximum.
Cleaning: Acceptable solutions include 1-1-1 Trichlorenthane, Freon (TF, TE, or TMS), Isopropyl Alcohol and detergent (140°F maximum). Solutions which are not recommended include Acetone, Methylene Chloride, and Freon TMC.

CODE & TRUTH TABLES:

Series 94H and 94R

Standard Output

SWITCH POSITION	CODE OUTPUT 1	2	4	8
0				
1	●			
2		●		
3	●	●		
4			●	
5	●		●	
6		●	●	
7	●	●	●	
8				●
9	●			●
A		●		●
B	●	●		●
C			●	●
D	●		●	●
E		●	●	●
F	●	●	●	●

Complement Output

SWITCH POSITION	CODE OUTPUT 1	2	4	8
0	●	●	●	●
1		●	●	●
2	●		●	●
3			●	●
4	●	●		●
5		●		●
6	●			●
7				●
8	●	●	●	
9		●	●	
A	●		●	
B			●	
C	●	●		
D		●		
E	●			
F				

Dot indicates terminal to common connection. All switches are continuous rotation.

Octal and Octal Complement outputs are 0 thru 7 positions.

BCD and BCD Complement outputs are 0 thru 9 positions.

Hexadecimal and Hexadecimal Complement outputs are 0 thru F positions.

Standard codes have natural color rotors; complements have rotors in a contrasting color.

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ORDERING INFORMATION: Series 94H

94HAB10WR

Series
Actuator Style: A = Flush, Figure 1
B = .270, Figure 3 (see page B-22)
C = .170, Figure 3 (see page B-22)
E = .090, Figure 3 (see page B-22)
F = Flush, Figure 2
Code: B = Standard, C = Complementary

Packaging: R = Tape and Reel, (Surface Mount Only)
Blank = Tube*
Terminal Style: RA = Right Angle, Thru-Hole
W = Surface Mount
Blank = Thru-Hole
Number of Positions: 08 = Octal, 8 Position
10 = BCD, 10 Position
16 = Hex, 16 Position

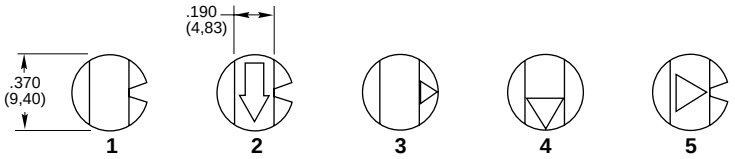
* 27 Pieces per tube for surface mount and thru-hole, 24 pieces per tube for right angle switches.

ORDERING INFORMATION: Series 94R

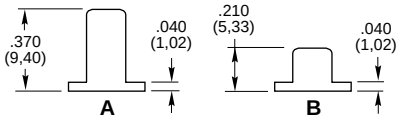
Code	No. of Positions	Standard Code Part Number	Complement Part Number
Continuous Rotation Versions			
Octal	8	**94RB08C**	**94RC08C**
BCD	10	**94RB10C**	**94RC10C**
Hexadecimal	16	**94RB16C**	**94RC16C**
Rotational Stop Versions*			
Hexadecimal	16	**94RB16F**	**94RC16F**

* Consult Grayhill for 8 or 10 position

SERIES 94 High Temperature Knobs: For Shaft Extensions



Slotted knobs show switch markings. Contact Grayhill for other knob material/ marking color combinations and geometrics.



* Use only with Actuator Type B or C

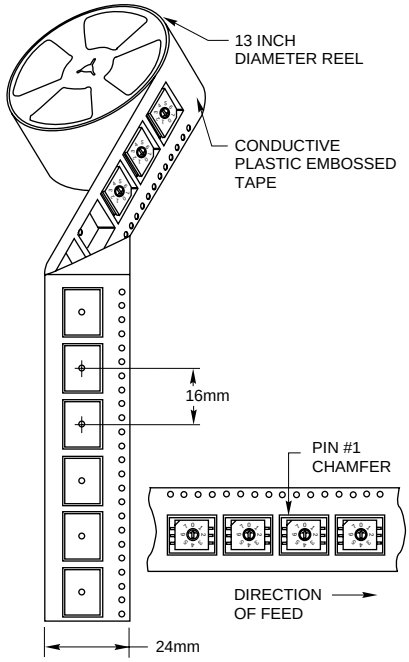
ORDERING INFORMATION: Series 94 High Temperature Knobs*

Knob Style and Height	Knob Color	Arrow Color	Part Number
1A	Gray	N/A	**947706-001**
5A	Gray	Black	**947706-005**
1B	Black	N/A	**947705-001**
1B	Gray	N/A	**947705-012**
2B	Gray	White	**947705-004**
3B	Gray	Black	**947705-017**
4B	Gray	Black	**947705-018**
1B	Natural	N/A	**947705-009**
4B	Black	White	**947705-010**
5B	Gray	Black	**947705-019**

*Ordered as a separate item.

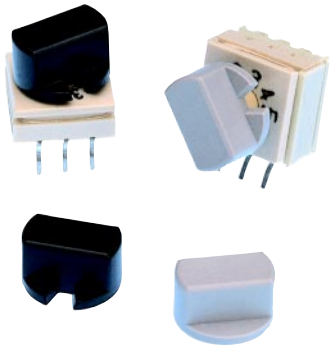
TAPE AND REEL PACKAGING: Series 94H

Meets requirements of EIA 481-2.



Each reel contains the following number of switches with a 15.35 inch (390 mm) minimum leader and a 6.30 inch (160 mm) minimum trailer.

Quantities per Actuator Style:
94H: A = 750
B = 150
C = 200
D = 300
E = 750



Available from your local Grayhill Distributor.
For prices and discounts, contact a local Sales Office, an authorized local Distributor or Grayhill.